

REMARKS

This Amendment is submitted in reply to the Final Office Action mailed on May 28, 2009. A petition for a one month extension of time is submitted herewith the Amendment. The Director is authorized to charge \$130.00 for the petition for a one month extension of time and any additional fees that may be required, or to credit any overpayment to Deposit Account No. 02-1818. If such a withdrawal is made, please indicate the Attorney Docket No. 0112701-00607 on the account statement.

Claims 1-31 are pending in this application. Claims 3 and 18 were previously withdrawn. In the Office Action, Claims 1-2, 4-17 and 19-31 are rejected under 35 U.S.C. §103. Applicants believe that the rejection is improper and respectfully traverse it for at least the reasons set forth below.

Initially, Applicants note that the Patent Office asserts that "[t]his application contains claims 3 and 18 drawn to an invention nonelected with traverse in the reply filed on 7/15/08. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action." See, Office Action, page 2, lines 4-6. In response, and to further prosecution, Applicants have canceled Claims 3 and 18 without prejudice or disclaimer. Applicants reserve the right to file a divisional or continuation application directed toward the subject matter of the canceled claims.

In the Office Action, Claims 1-2, 6, 8, 10, 15, 17, 21-23 and 29 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,953,592 to Darbyshire et al. ("*Darbyshire*") in view of U.S. Patent No. 3,121,635 to Eldred ("*Eldred*") and FR 1 600 708 ("*FR '708*"). Claims 11-14, 24-28 and 30-31 are rejected under 35 U.S.C. §103(a) as being unpatentable over *Darbyshire* in view of *Eldred*, *FR '708* and GB 413,488 to Neale ("*Neale*"). Claims 4 and 19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Darbyshire* in view of *Eldred*, *FR '708* and CA 964074 to Ehrgott et al. ("*Ehrgott*"). Claims 5, 7, 9 and 20-23 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Darbyshire* in view of *Eldred*, *FR '708*, *Ehrgott* and U.S. Patent No. 2,224,942 to Weisman ("*Weisman*"). Applicants respectfully submit that the cited references are deficient with respect to the present claims.

Independent Claims 1 and 11 recite, at least in part, coffee tablets having an internal pore structure wherein a majority of the pores in the internal pore structure are interconnected and have a size of between 5 and 50 micrometers. Independent Claim 15 recites, in part, methods for forming coffee tablets having an internal pore structure wherein a majority of the pores in the internal pore structure are interconnected and have a size of between 5 and 50 micrometers, the methods comprising the step of molding a coffee composition that contains coffee solids while adding a gas thereto. In contrast, Applicants respectfully submit that the cited references are deficient with respect to the present claims.

Applicants submitted herewith a Declaration under 37 C.F.R. §1.132 (“Declaration” attached hereto as Exhibit A) that demonstrates the deficiencies of the prior art with respect to the present claims. As supported by the *Declaration*, and as taught by Applicants’ specification, Applicants have surprisingly found that coffee tablets formed according to the present invention with close surface properties and internal pore structures have desirable smooth outer surfaces, sufficient strengths to prevent easy breakage and provide acceptable solubility. See, specification, page 6, lines 1-5. To prepare coffee tablets of the present invention, a gas is added to a coffee composition before the coffee composition is frozen in a mold. Specifically, a coffee composition that contains coffee solids may be molded in a mold while adding a gas thereto to form a coffee tablet having a three-dimensional shape that conforms to that of the mold and that has a smooth and/or shiny outer surface and a closed surface pore structure. See, specification, page 6, lines 17-25. The resulting pore structure enables the tablet to dissolve rapidly in hot water without the need for any excessive stirring or other agitation. At the same time, the closed surface pore structure provides for a coffee tablet a certain contribution to the mechanical strength of the particle/tablet and its resistance to breakage attrition. See, specification, page 8, lines 7-17. In contrast, Applicants respectfully submit that the cited references fail to disclose each and every element of the present claims. Applicants also submit that the skilled artisan would have no reason to combine the cited references to arrive at the present claims because the cited references teach away from each other.

For example, and as supported by the *Declaration*, *Darbyshire*, *Eldred* and *FR ‘708* all fail to disclose or suggest coffee tablets having an internal pore structure wherein a majority of the pores in the internal pore structure are interconnected and have a size of between 5 and 50

micrometers as required, in part, by the present claims. The Patent Office even admits that *Darbyshire* and *Eldred* fail to disclose or suggest the size of the internal pores of the present coffee tablet. See, Final Office Action, page 3, line 12-page 4, line 1. *FR '708* fails to remedy the deficiencies of *Darbyshire* and *Eldred* because *FR '708* fails to even mention or disclose a pore size. *Darbyshire*, *Eldred* and *FR '708* also fail to disclose or suggest methods for forming coffee tablets, the methods comprising the step of molding a coffee composition that contains coffee solids while adding a gas thereto. In fact, the Patent Office has not even addressed the claimed method step of molding a coffee composition that contains coffee solids while adding a gas thereto as is required, in part, by Claim 15, nor has the Patent Office cited to any disclosure in any of the cited references disclosing or suggesting same.

Darbyshire discloses tablets made of a carbohydrate material. The tablets may be produced from a particulate base material that is compacted to form a tablet. The enclosure of pressurized gas is, for example, achieved by treating a porous powder or the finished tablet with pressure under elevated temperature. See, *Darbyshire*, col. 4, lines 25-28. As is illustrated in Figure 1a of *Darbyshire*, the individual powder particles of which the tablets are formed retain their structure and are bonded together at the contact points. The porosity of the tablet is, therefore, mainly formed by the interstitial voids between the individual particles. *Darbyshire* does not disclose pore size of the tablets, but does disclose sizes of individual particles between 0.4 and 0.9 mm, as is detailed in Example 1. This particle size will result in interstitial voids considerably larger than the 5 to 50 microns of the present claims. *Darbyshire* is directed to solving the problem of providing a tablet with good solubility by inclusion of gas under pressure in closed voids of the tablet. In contrast, the coffee tablets of the present invention may be produced with unique internal pore structures and without the addition of an extensive pressure treatment step under high temperature, as is required by *Darbyshire*.

Eldred discloses the formation of tablets from a basic powder, a spray dried instant coffee. The tablets are formed by moisturizing the spray dried powder with a small amount of water in a liquid carrier wherein the coffee powder is insoluble and then compacting the powder. The purpose of *Eldred* is to make the coffee powder particles stick without becoming a solid cake-like mass and losing their individual structure. See, *Eldred*, col. 2, lines 14-26 and lines 40-44. The pore size is not mentioned in *Eldred*. However, the structure of the tablets is composed

of the individual particles retaining their internal structure and bonded at the contact points. See, *Eldred*, col. 6, lines 63-68. Therefore, the tablets of *Eldred* will have a larger pore size than what is required by the present claims. The coffee tablets of the present claims are produced by a very different process, which results in a very different internal pore structure and different properties (e.g., with respect to the balance between mechanical strength and solubility).

FR '708 teaches a substance for instant drinks that is obtained by extraction of the base product followed by lyophilisation and placing in molds to give shapes. The substance formed may be coated with an edible protective layer to protect against shock and humidity. See, *FR '708*, Abstract (translation). *FR '708* fails to disclose any specific pore structures, let alone the pore structures of the present claims.

While the Patent Office admits that neither *Darbyshire* nor *Eldred* discloses the presently claimed pore size, the Patent Office asserts that the claimed pore size “would have been well within the purview of one skilled in the art” and would have been obvious through “routine experimental optimization.” See, Office Action, page 3, lines 6-17. Applicants respectfully disagree, however, and submit that the pore size of about 5 to about 50 microns is a result of the method used to produce the coffee tablets. For example, as discussed above and as supported in the *Declaration*, the particle sizes of the products of at least *Darbyshire* would be too large to allow for the presently claimed pore size. Additionally, because the structures of *Eldred* are composed of individual particles retaining their structure and bonded at the contact points, the structures of *Eldred* would also have a larger pore size than is presently claimed. As such, Applicants respectfully submit that the presently claimed pore size would not have been “obvious” in view of the presently cited references, as is alleged by the Patent Office.

The Patent Office further alleges that Applicants have not provided evidence that the individual particles of *Darbyshire* would result in interstitial voids considerably larger than the presently claimed 5 to 50 microns and notes that Applicant draws on the particle sizes of a single Example to demonstrate same. See, Office Action, page 6, lines 14-23. However, Applicants submit herewith a *Declaration* from one skilled in the art demonstrating that the particles of *Darbyshire* would result in interstitial voids considerably larger than the presently claimed 5 to 50 microns. Further, Applicants note that the “single Example” of *Darbyshire* is the only portion thereof that recites specific particles sizes. Thus, while Applicants direct the Patent Office’s

attention only to Example 1 for reference to a particle size, this is because particles sizes are not discussed anywhere else in *Darbyshire*.

As is further supported by the *Declaration*, the processes of *Darbyshire* and *Eldred* are very different than the process by which the present claims are produced. As discussed above, the interconnected internal pores of the present coffee tablets are formed by a process wherein a gas is injected into a partially frozen coffee composition during molding. This unique process results in a specific internal pore structure that allows for sufficient structural integrity of the tablet while also allowing the tablet to dissolve sufficiently. None of the cited references even suggests a process wherein coffee tablets may be formed by injecting a gas into a partially frozen coffee composition during molding. Indeed, the Patent Office has failed to even cite any disclosure in any of the references suggesting same.

The Patent Office asserts that since “*Darbyshire et al* is silent regarding molding the coffee pow[d]er in an air free environment . . . [i]t is inherent, therefore, during the compression of the coffee powder particles during molding that any air present would naturally be included in the tablet thus formed.” The Patent Office also states that “the instant claims do not appear to call for ‘injecting a gas’ but merely require ‘adding a gas.’” See, Office Action, page 7, lines 8-21. Applicants respectfully disagree. For example, independent Claim 15 does not simply require “adding a gas” during formation. Instead, Claim 15 requires, in part, “wherein the amount of gas added to the coffee composition is sufficient to form a internal pore structure, with a majority of the pores in the pore structure are interconnected and have a size of between 5 and 50 micrometers.” As such, it is clear that the gas is not simply atmospheric gas, but is, rather, purposely added to assist in forming an internal pore structure. The specification even states that “the gas added to the coffee composition is contributing to the forming of the internal pore structure.” See, specification, page 6, lines 22-23. Accordingly, Applicants respectfully submit that the presence of atmospheric gas is not equivalent to “adding” gas as is required, in part, by independent Claim 15.

Further, to satisfy the test for inherency, the Patent Office would be required to show that the compositions of *Darbyshire* necessarily (i.e., always or automatically) include additional air in the tablet upon formation “wherein the amount of gas added to the coffee composition is sufficient to form a internal pore structure, with a majority of the pores in the pore structure are

interconnected and have a size of between 5 and 50 micrometers.” That condition simply is not met under the present circumstances. The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. See, MPEP 2112. *In re Rijckaert*, 9 F.3d 1531, 1534 (Fed. Cir. 1993). The Patent Office has failed to provide a basis in fact or any technical reasoning to support any possible determination that air is “added” to the tablet during formation for the purpose of forming a specific internal pore structure.

Applicants also respectfully submit that the skilled artisan would have no reason to combine the cited references to arrive at the present claims because *Darbyshire* teaches away from at least the present claims. For example, *Darbyshire* is entirely directed to treatment of a carbohydrate matrix having sufficient closed porosity so that gas entrapped in the pores promotes dissolution or dispersion upon contact with water. See, *Darbyshire*, Abstract. Specifically, *Darbyshire* discloses that “[c]losed pores in the matrix are able to hold gas under pressure for prolonged periods of time and, provided that there are no cracks in the matrix.” *Darbyshire* also discloses that “[g]ood gas retention requires an adequate closed pore volume after loading with gas.” See, *Darbyshire*, col. 5, lines 29-35 (emphasis added). This is in direct contrast to the present claims, which require, in part, an interconnected inner pore structure. As discussed above, and as is supported by the *Declaration*, the interconnected inner pore structure enables the tablet to dissolve rapidly in hot water without the need for any excessive stirring or other agitation. Therefore, the closed pore structure of *Darbyshire* teaches away from the use of the interconnected pores of the present claims.

With respect to the remaining rejections, Applicants respectfully submit that *Neale*, *Ehrgott* and *Weisman* all fail to remedy the deficiencies of *Darbyshire*, *Eldred* and *FR '708*. The Patent Office cites *Neale* solely for the disclosure of packaging coffee tablets in certain materials and the use of flexible laminate and/or paper as a packaging material. See, Office Action, page 4, line 9-page 5, line 5. The Patent Office cites *Ehrgott* solely for the disclosure of the preparation of a coffee tablet by using a semi-solid slush step followed by full freezing. See, Office Action, page 5, lines 9-14. The Patent Office also cites *Weisman* solely for the disclosure of coating coffee granules with coffee extract to protect the flavor and prevent oxidation without expensive packaging. See, Office Action, page 5, line 23-page 6, line 7. Applicants respectfully

submit that the cited references fail to even mention the unexpected benefits of the presently claimed internal pore structure obtained by the presently claimed method involving injecting a gas into a coffee composition during molding. For at least the above-mentioned reasons, Applicants respectfully submit that the cited references fail to disclose each and every element of the present claims. Further, Applicants also submit that the skilled artisan would have no reason to combine the cited references to arrive at the present claims.

Accordingly, Applicants respectfully request that the obviousness rejection of Claims 1-2, 4-17 and 19-31 under 35 U.S.C. §103(a) be reconsidered and withdrawn.

For the foregoing reasons, Applicants respectfully request reconsideration of the above-identified patent application and earnestly solicit an early allowance of same. In the event there remains any impediment to allowance of the claims that could be clarified in a telephonic interview, the Patent Office is respectfully requested to initiate such an interview with the undersigned.

Respectfully submitted,

K & L GATES LLP

BY 

Robert M. Barrett
Reg. No. 30,142
Customer No.: 29157
Phone No. 312-807-4204

Dated: September 28, 2009